

Appendix 5-1: Attainment Demonstration Synopsis

On November 13, 2001, EPA approved Wisconsin's one-hour ozone attainment demonstration SIP revision as a final rule. The attainment plan is designed to assure that NO_x and VOC emissions from sources in Wisconsin, in conjunction with anticipated VOC and NO_x emissions from sources in upwind states, cease causing violations of the 1-hour ozone standard.

EPA specifically approved:

- the modeled attainment demonstration for improved air quality sufficient to attain the 1-hour ozone standard in all remaining Wisconsin nonattainment counties by 2007 (Door, Kenosha, Manitowoc, Milwaukee, Ozaukee, Racine, Washington and Waukesha);
- the NO_x reduction rule to achieve staged reductions from 2002 through 2007 from sources in southeast Wisconsin;
- the revision to the NO_x waiver
- rules to control VOCs from industrial solvent cleaning operations and plastic parts coating operations
- the SIP revision for the administrative order requiring VOC control for Flint Ink manufacturing
- the conformity budgets for the 2007 attainment year and the Rate of Progress (ROP) milestone years of 2002 and 2005, along with the state's commitment to revise the conformity budgets within one year of the formal release of MOBILE6
- the Reasonably Available Control Measures (RACM) analysis
- excess emissions fee rule
- the commitment to conduct a mid-course review of the one-hour attainment status of the Lake Michigan area by December 31, 2003 (or more likely, 2004); and
- the post-1999 ROP plan which provides for specific percent reduction in emissions (VOC and/or NO_x) in each of the post 1999 milestone years (2002, 2005, and 2007)

Additional related elements receiving federal approval include:

- the post-1996 Rate of Progress plan approved on September 26, 2001
- revisions to Wisconsin's inspection and maintenance (I/M) program SIP, which became effective on October 15, 2001.

Under this plan the core attainment strategy now depends on major regional NO_x reductions combined with the prior VOC-focused controls to achieve attainment by 2007. Wisconsin is selectively pursuing NO_x control as necessary for attainment while continuing the remainder of the NO_x waiver (granted under Section 182 of the CAAA) as long as the waived controls are excess reductions to those shown necessary for a timely attainment demonstration.

Attainment Demonstration Findings

Wisconsin has partnered with three other Lake Michigan Air Directors Consortium (LADCO) states, Illinois, Indiana and Michigan, to conduct an attainment demonstration of the one-hour ozone standard based on photochemical modeling and supplemental weight-of-evidence (air quality data analyses) information (*Midwest Subregional Modeling: 1-Hour Attainment Demonstration for Lake Michigan Area*, July 1, 2000).

Four sets of controls comprise the final attainment strategy:

1. Federal Clean Air Act controls
2. State rate-of-progress reductions
3. The Federal Tier II/Low Sulfur program; and
4. Regional NO_x controls.

Policy-relevant findings

- Domain-wide (principally urban area) VOC emission reductions decrease ozone concentrations in urban nonattainment areas. The spatial extent of the ozone decreases is limited but does occur in high population and generally high ozone areas.
- Domain-wide NOx emission reductions decrease ozone concentrations but can sometimes increase ozone concentrations. Ozone decreases occur throughout much of the modeling domain, including areas with high base year concentrations. Ozone increases are limited mostly to urban areas and are most pronounced on days with lower 1-hour concentrations.
- The modeled attainment tests show that Clean Air Act controls alone will reduce ozone concentrations but do not, by themselves, provide for attainment of the 1-hour NAAQS everywhere in the Lake Michigan area. The full set of controls (i.e., Federal CAA controls; State Rate-of-Progress emission reductions; Tier II/Low Sulfur program; and regional NOx controls) are necessary and sufficient to provide for attainment of the 1-hour NAAQS throughout the Lake Michigan region.

For Wisconsin, the modeling reflects a lesser level of NOx control due to the federal Appellate Court's decision reinstating the NOx SIP Call for Michigan, Illinois and Indiana. DNR completed an initial, individual modeling assessment to support the attainment demonstration assuming the application of the NOx SIP Call in every state except Wisconsin. Subsequent modeling agreements with LADCO reflect strategies with this bifurcated regional NOx control assumption.

The 1999-2000 LADCO and Wisconsin modeling results show that implementation of NOx controls incorporated in the attainment demonstration SIP revision for Wisconsin are not sufficient in and of themselves to demonstrate attainment of the standard. These "local" NOx control programs include the basic Rate of Progress requirements for 2002, 2005 and 2007. For the 1-hour ozone standard to be attained in Wisconsin, these Wisconsin NOx control programs have to be augmented by implementation of the NOx SIP call in Illinois, Indiana and the other upwind states subject to the SIP call and the Section 126 NOx control actions.